

THE RANTOP

MAY/JUNE

1987

PUBLISHED BY THE
GREATER CLEVELAND SINCLAIR USERS GROUP

Thanks Indiana Sinclair BBSers Group A Great Show

WEST SIDE GROUP MEETS AT LAKEWOOD PUBLIC LIBRARY
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EVERY THIRD FRIDAY EACH MONTH
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EAST SIDE GROUP MEETS AT THE EUCLID SQUARE MALL
IN THE EUCLIDIAN ROOM 7:30 P.M.
EVERY FIRST FRIDAY EACH MONTH
CONTACT: MAX SCHOENFELD (216) 371-1096

A short note to our friends from other newsletters and magazines. You are welcome to use any of our material, news, ads, or programs if YOU: (1) Tell where it came from (RANTOP Cleveland, Ohio) and (2) The author's name that wrote the article. We would appreciate it if you would send us a copy of the newsletter that it appeared in! Unless otherwise notified we will do the same.

THANK YOU FOR YOUR INTEREST IN OUR NEWSLETTER !

THE TSU-BBS IS ALIVE
SYSOP: Chris Raynak PHONE: 216-327-1099 PARAMETERS: 7/1/0

AMSTRAD-SINCLAIR-TIMEX RESOURCES

news/rumors

hardware software literature

June 1987 by Andy Kosiorek

INDIANA T/S COMPUTER FEST

Everyone I have spoken with who attended the show, agrees that it was a success, and worth while. It was nice to meet in person, many other Timex'rs, such as Kurt Casby, Tim Woods, Joe Williamson, Jeff Moore, Tom Bent, John Oligar, Dave Franson, the Compuserve T/S Sysops, and others that I've communicated with over the years.

A big thanks to Frank Davis, Paul Holmgren and the Indy Group for a job well done, and our appreciation to our club members that set up and staffed our exhibit table.

Already there is talk about having a '88 Fest - the location is the big question.

Some NOTES from the Fest...

There is a fix available for the Xmodem bugs in ZTERM.

2050 modem boards and full size schematics are available from Ed Gray of Los Angeles.

SAM's Publications was at the Fest with copies of their TS 1000 ComputerFacts. They are considering publishing one on the 2068.

Brice Rd. Pharmacy of Columbus Ohio, a long time T/S retailer and QL Dealer, is now carrying the Amstrad PC Clone.

At this years show QL items just about equaled TS 2068 goods. There were a few vendors with TS 1000 items.

CLUB NOTES

Gary Solomon, owner of Brice Rd. Pharmacy has agreed to give a presentation on the Amstrad PC 1512 at one of our Club meetings later this year.

At the May west side meeting we had our first visitor with a Amstrad Machine, the PCW 8256 Word Processor that Sears is selling for \$399, with a NLD printer. Although the machine is advertized as a word processor, it will run CP/M, and comes with a CP/M utilities disk.

A-S-T RESOURCES, continued

news/rumors

hardware software literature

June 1987 by Andy Kosiorek

ZX COMPUTING MAGAZINE

ZX Computing Magazine will cease to publish after the June 1987 issue. According to a news release from the publisher, Argus Specialist Limited, "the closure is due to a decline in the market place where this magazine previously operated." Refunds will be issued for unexpired portions of subscriptions.

This may well have a impact in the UK, similiar to the effect of the discontinuance of Sync in the USA.

COMPUTER SHOPPER MAGAZINE

This tabloid, which seems to get better with each issue, has some good news. They are expanding their coverage of the T/S scene with the addition of a second columnist. Mark Fenderick has been writing his "Sinclair Survival" columns in this mag. for four years now. Its hard to believe that we have been orphans for this long of a time.

SUNSET ELECTRONICS

On a recent visit to San Francisco, I visited Sunset Electronics, the largest T/S retailer on the west coast. John Warburton, has in stock, new! 2068's, 2020's, 2040's and 2050s plus many other hardware and a lot of software items. If your looking for a hard to find T/S item, give John a call at 415-665-8330, 10 to 6, pacific time. John also repairs Sinclair computers. Sunset is probably the only true retail "store" in the US still carrying a complete line of T/S products.

CLEVELAND FREENET

Cleveland Freenet now has about 3500 registered users. The system averages around 500-600 calls a day. If you call into our T/S SIG, please register.

Plans are now underway to add to the systems capacity, and install a version two of system operating software in the autumn

The second US Freenet system will soon be online in Youngstown Ohio.

May - June Editorial

Hi all! As you can see, the RAMTOP is LATE again! I am now in the "busy" season at work and have little time for anything else. I hope you will forgive this. We also have had a big upset in the RAMTOP. This is the printing. Al Gedris has been printing the RAMTOP for quite some time now and I know that we all appreciate his services. To top it off he was getting the RAMTOP copied for FREE! Anyway, we now have to find someone that can take over the responsibility of getting the RAMTOP copied. As you can see, we have been using 17X11 sheets folded in half. This is nice but is not required. If you feel that you can take over the printing, PLEASE give me a call! (661-4105) Please let me know what the costs will be also.

I will not go into great detail about the Indy Fest. I had a great time and I hope another one will come to pass next year. Some of our members want to put together one here. I think that would be great but it will be a lot of work! I will help as I can but the summer and fall are real busy as my work. I hope that the fest stays in the midwest! I know that very few of us will go to the west coast. Anyway, the 87 fest was a huge success! just about everyone important to the T/S way of computers was there. The accommodations were top rate. The dinner was better than I could imagine. I know that I spent a lot of bucks and up graded my 2068 with lots of new software, a graphics tablet, several proto boards, a newer DOS update, and a lot of NEW knowledge about these wonderfully powerful computers! As the months go by I will be sharing some of the many hardware tips for improving your T/S 2068s.

This will be a double issue and as such will have some larger articles. One of which is the 2nd half of the VIDEO DIGITIZER article. Speaking of which, I built the board and got the software (through Al Gedris) and it now works GREAT! I did have several problems and want you to be aware of them BEFORE you build this! First, the schematic was NOT CORRECT! I built it as in the April RAMTOP and it did not work right. I tried better filtering of the 5 volt supply and such but to no avail. I gave up and called the guy who designed it in Canada. (ERIC MICHAUD) He couldn't figure it out either. I finally sent the board to him and he sent it back to me 2 weeks later with a letter telling me just what the problems were. (The board works fine now) The problem was that when Eric drew up the schematic, the capacitors that he had used were marked as 104, 103, 102 instead of .1, .01, .001. Somewhere along the line, the wrong values got into the article. All the caps under 1uf are 10 times too big. I will go into it more in the article and have the correct schematic.

SPOCK
SAYS:



SOMETHING DIFFERENT: A PARTY GAME--A TESTING TOOL FOR TEACHER

Software review of "CAT'S GAME" from Widjup Co., 1120 Merriemfield, Grand Rapids, MI 49507-- \$7.50 inclu. S&H.

The same game for kids works well for adults if the prize is something adults want...in mood of the party's theme. No work for the host beyond a few minutes to print out a batch of TS 2040 pictosquares--one per guest. Each will have its own matching answer square with complete-to-the-pixel cats masked like bandits. No two of the pictosquares will be exactly alike and few will have the same count of complete cats.

This program is fun to watch in the printing phase as the computer checks line by line and pixel by pixel to see if the template is matched whisker for whisker. There will be more than one winner so don't promise a new pool table to those with correct answers. There will be FEWER winners than you would imagine while holding the answers in your mitt. Since the answers are numbered to match each pictosquare, there's no problem in checking for winners and no arguments when you explain the computer surveyed every dot for a match.

Remedial readers that are not learning disabled often have problems of temperament--impulsivity, short attention span, and distractibility. For this reason for two consecutive years I let "Cat's Game" be 20% on the final for Remedial Reading. Piece of cake. But no mention is made that each student has his very own print-out. If you had the temperament described above, you might ask your neighbor for the answer or look on his paper rather than count. It was well-worth 20% to see how many students were still Unreconstructed. Many showed themselves to be "task-oriented" by quelling the impulse to guess or cheat.

Really, there are no "trivial" computer programs if you learn from them. This one is fun too.

--Joan Kealy

DIGITAL IMAGIZING

PART II by ERIC MICHAUD

Before we get into Eric's project, I want to say that this DOES work! I built one and it works great! BUT! BEFORE YOU BUILD THIS OR IF YOU ALREADY HAVE AND ARE HAVING TROUBLE, READ THIS FIRST!!! First, There was a discrepancy in the schematic so the one in the last RAMTOP was WRONG! The CORRECT one is in this issue! The parts in question are the 3 caps that are under 1uf. Also remove the resistor from pin 8 (74LS74) to 5V. The 1K resistor between pins 13 & 8 of the 74LS74 should be changed to a 470 ohm. I have also found that using 10 turn pots for the BRIGHT and SYNC are VERY helpful! The sync adjust even with a 10 turn pot is less than 3/4 of a turn. Using a single turn, it's VERY hard to set the sync! Bright is not as bad but the 10 turn pot makes it MUCH easier to set the desired contrast and you will find that you need to change this with almost every new picture. I also found that shielding the analog section (LM-311s and associated parts) will help a bit. Also note that the "SYNC" option in Eric's software is only a guide and you must adjust it while scanning a frame for best results. I found that the sync DOES change a bit from a color picture to a B&W and from one video source to another. I built mine on a ZEBRA PROTO BOARD. I will demo it at a later meeting. All the screens were done with my board and my NEC DX-2000U VCR. The DX-2000 has a DIGITAL stop action which digitizes a frame from the tape or a live broadcast. If you are in the market for a VCR you should consider one that has a digital still since it produces a completely jitter free still at all speeds. Now, on to ERIC MICHAUD'S second article!

Please note that the original of this article first appeared in SYNC LINC, which is the newsletter from the TORONTO I/S users group.



Here is a DIGITIZED screen from a tape that TOBY RADLOFF gave me at the last meeting. The man on the left is Cleveland's HAUVEY PEKAR, The writer of the comic book: AMERICAN SPENDER.

Hopefully by now you have assembled the hardware involved in this project and have obtained the necessary driver software from the club library. The software I have written allows you to do high-contrast scans, grey-scaling (the combining of several images giving one picture with varying shades of grey representing the different colours), cleaning of noise in the image, flips, inversions, and cut and pasting from one image to another. If you have not yet obtained this software, I have included a short machine code program that will allow you to capture some high-contrast scans.

Before actually trying out the software, you can check the operation of the hardware with a short basic program. Type in the following:

```
10 OUT 0,255
20 POKE 23692,255: PRINT IN 0;" ";; GOTO 20
```

RUN the program and hook up your STILL video source to the digitizer. Now try turning the BRIGHTNESS and SYNC knobs to various positions. You should get four different numbers in a random order. Usually they will be from 252-255. If you get this, then the hardware is more than likely in working condition.

Now load the driver software. Either load the version from the club library or type in the one in this article. If you have the good version, the rest is easy. Just choose option #1 and turn the SYNC knob until the message reads 'IN SYNC'. Now choose capture option and start digitizing!

If, however, you are using the version printed here, you will have to sync your video source 'by hand'. Connect your video source and RUN the program. Turn the SYNC and BRIGHTNESS knobs until you see a picture starting to form from left to right. If the picture is totally black or totally white, adjust the BRIGHTNESS knob accordingly. If the picture freezes or goes too quickly (shorter than 5 seconds), adjust the SYNC knob. For now this will be more or less trial and error. After this step is completed and you can see the picture from your video source on your 206 display, you have a working video digitizer!

How does it work? Well, first you must understand TV's a bit. A picture on a TV starts forming from the top left corner and works its way across to the right corner and then returns to the position immediately underneath the top left and so on until it reaches the bottom of the screen at which time the process restarts. A 2068 is not fast enough to collect this information at once so it only grabs one vertical line of data from each frame. Since there are 60 frames a second and we need 256 lines, this process requires about 5 seconds. There is of course much more to it than this but that is basically it.

The SYNC knob is necessary because of the varying signal strengths from different video sources. Once you have adjusted it for your particular video source, it should not have to be touched again unless you switch to a different source.

The STRECH knob allows you to compress or expand the image. This is done by changing the sampling rate to a slower or faster rate and allows greater detail to be captured.

The BRIGHTNESS knob determines the amount of black or white in the picture. The brightness can also be controlled by software by setting bits 0, 1, and 2 of port 00 to a value from 0-7 using binary. Resetting bit 4 restarts the timer in the digitizer. This must be done before each capture. Reading bit 0 provides synchronization information and reading bit 1 gives the actual data for the picture, a one meaning black and a zero meaning white.

I am presently working on some software that will provide 512 by 192 resolution as opposed to the current 256 by 192. This should also be printable on a real printer in the same resolution as well as viewed on the screen.

If you are having difficulties with your digitizer or have questions to ask, feel free to call me at (519) 542-4464. Happy digitizing!

5 REM DIGITIZER LISTING by Eric Michaud

```

10 CLEAR 38911: LET t=0
20 FOR x=38912 TO 39423
30 READ n: POKE x,n: LET t=t+n

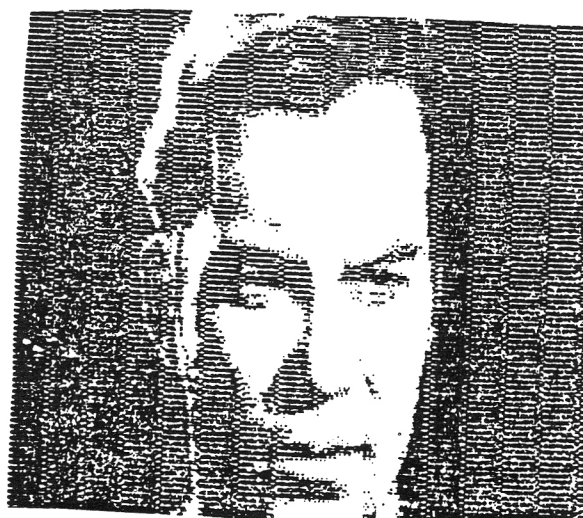
40 NEXT x
50 IF t=49564 THEN GO TO 100
60 PRINT "Error": STOP
100 RANDOMIZE USR 39296: BEEP .
01,30: GO TO 100
3000 DATA 0,64,0,65,0,66,0,67,0,
68,0,69,0,70,0,71,32,64,32,65,3
2,66,32,67,32,68,32,69,32,70,32
,71,64,64,64,65,64,66,64,67,64,
68,64,69,64,70,64,71,96,64,96,6
5,96,66,96,67,96,68,96,69,96,70
,96,71,128,64,128,65,128,66,128
,67,128,68,128,69,128,70,128,71
,160,64,160,65,160,66,160,67,16
0,68,160,69,160,70,160,71
3010 DATA 192,64,192,65,192,66,1
92,67,192,68,192,69,192,70,192,
71,224,64,224,65,224,66,224,67,
224,68,224,69,224,70,224,71,0,7
2,0,73,0,74,0,75,0,76,0,77,0,78
,0,79,32,72,32,73,32,74,32,75,3
2,76,32,77,32,78,32,79,64,72,64
,73,64,74,64,75,64,76,64,77,64,
78,64,79,96,72,96,73,96,74,96,7
5,96,76,96,77,96,78,96,79,128,7
2,128,73,128,74,128,75,128,76,1
28,77,128,78,128,79

```

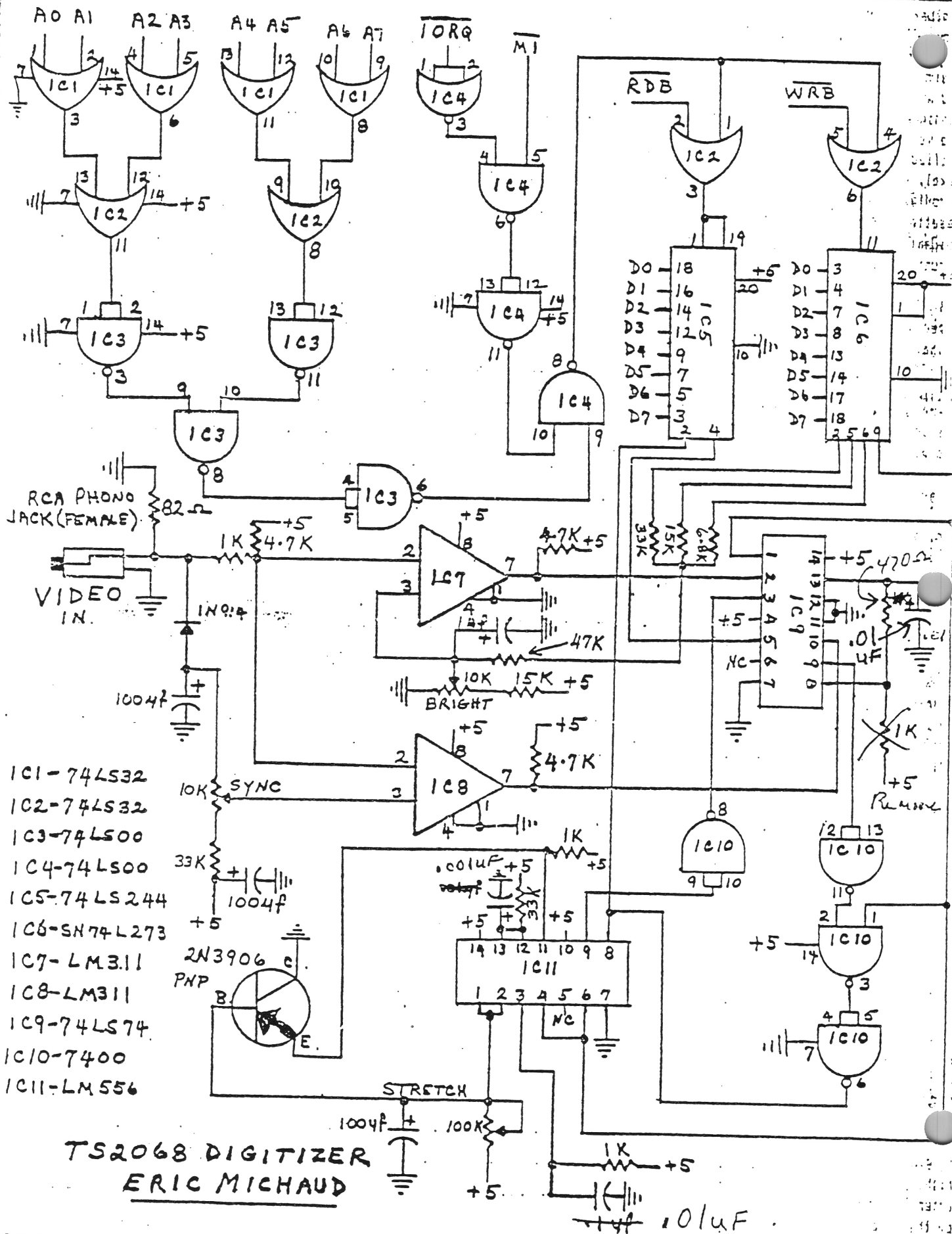
```

3020 DATA 160,72,160,73,160,74,1
60,75,160,76,160,77,160,78,160,
79,192,72,192,73,192,74,192,75,
192,76,192,77,192,78,192,79,224
,72,224,73,224,74,224,75,224,76
,224,77,224,78,224,79,0,80,0,81
,0,82,0,83,0,84,0,85,0,86,0,87,
32,80
3030 DATA 32,81,32,82,32,83,32,8
4,32,85,32,86,32,87,64,80,64,81
,64,82,64,83,64,84,64,85,64,86,
64,87,96,80,96,81,96,82,96,83,9
6,84,96,85,96,86,96,87,128,80,1
28,81,128,82,128,83,128,84,128,
85,128,86,128,87,160,80,160,81,
160,82,160,83,160,84,160,85,160
,86,160,87,192,80,192,81,192,82
,192,83,192,84,192,85,192,86,19
2,87
3040 DATA 224,80,224,81,224,82,2
24,83,224,84,224,85,224,86,224,
87,243,62,8,0,0,0,211,0,33,0,0,
34,165,153,22,38,205,229,153,21
,32,250,30,128,22,192,205,229,1
53,33,0,152,78,35,70,229,33,32,
0,9,219,0,203,71,32,250,203,79,
40,8,123,238,255,71,126,160,24,
2,126,179,119,225,35,21,32,222,
203,27,48,210,58,165,153,60,50,
165,153,254,32,32,197,62,0,211,
0,6,4,14,255,62,255,61,32,253,1
3,32,248,16,244,251,201,219,0,2
03,71,32,250,62,4,61,32,253,219
,0,203,71,32,239,6,4,62,150,61,
32,253,16,249,201

```



William Shattner from
"STAR TREK"



CROSS WORD PUZZLE

by Theo Turk
April 1, 1987

At last, someone finally wrote an Electronic Cross-word puzzle that can be played on any TS1000/1500 Computer. With this program, you have a choice of solving the pre-programmed puzzle as listed here or entering your own puzzle by simply changing AS, BS and CS; Lines 10-40.

When first run, the computer will ask you for a "size of puzzle". A maximum size of (19 x 19) can be accomodated. Second, the computer will want to know the number of "Blocks" required. These are the "Black Squares" as seen on every cross-word puzzle.

Line 10 contains all of the "Across" information that will be scrolled at the bottom of your screen. Note: The data format, as typed in, is non-critical. Note: The first character in Line 10 MUST BE an Inverted "A" - Code 166.

Line 20 contains all of the "Down" information that will be scrolled at the bottom of your screen. Again-Note: The data format, as typed in, is non-critical. Note: The first character in Line 20 MUST BE an Inverted "D" - Code 169. The Inverted "A" and "D" characters are used to signal the computer to change signs when required and also MUST BE included.

Line 30 (BS) contains the "Answers" for Across and MUST BE typed in exactly as follows: Let BS="(A0)JFK(A4)RAT(A8)..(" etc. Note: The last character, before the end quote mark, must be a "(" character.

Line 40 (CS) contains the "Answers" for Down and like Line 30 must be typed in as: Let CS="(A0)JAW(A1)FLO(A2)KENNYROGERS(A4)..(" etc. Note: The last character, before the end quote mark, must be a "(" character.

The correct answer is determined by the number of letters between the last ")" and the next "(" character. Example: Let BS="(A0)JFK(A4)...; the correct answer for (A0) across is "JFK" and is 3 letters long. Example: Let CS="(A0)JAW(A1)FLO(A2) KENNYROGERS(A4)...; the correct answer for (A2) down is "KENNY ROGERS" and is 11 characters long.

Type in the program as listed, then RUN 1000. As soon as the program stops in Line 1050, then delete Lines 2-5, 1000-1050. Run the program and enter "11" when asked for the size of the puzzle. Now, enter "22" for the no. of Blocks (Black Squares) required then enter - A3,A7,B3,B7,D0,D1,D5,D9,DA,E6,F3,F7,G4,H0,H1,H5,H9,HA,J3,J7,K3,K7.

You should notice that as you type in the 2nd character for each entry, a black square appears at that position. After inputting the last item, the screen will begin scrolling. Notice the sign indicates "Across". This is the data that you entered into AS; Line 10. As soon as Line 10 has become depleted, the sign will automatically change to "Down". This is the data that you entered into AS; Line 20.

To enter an answer requires (2) Key strokes. If you think the answer to (A0) "the missiles of October char." happens to be -JFK-, then press "A" followed by "0".

The scrolling will stop.

Enter "JFK".

Each character will appear on screen as you type it in. Now, one of two things will occur. If the answer is correct as typed in, the screen will start scrolling, after a short delay. If the answer is not correct, the computer will automatically erase it from the screen.

There isn't any final check to determine when all of the answers are right - the computer will judge each entry separately. To stop the program, press "Break".

```

1  REM (followed by 750 X's)
2  LET Z$="C36441 + 116 (Zero's 0)".
3  LET Z$=Z$+"260D270D280D2628373438380029343C3300
    CDBB023EFDBCC9C5D5E5CDD14038FB444DCDBD077EF5CDD140
    30FBF1E1D1C1C9217C40CDD840FE2638F9BE30F657329A40
    2BCDD840FE1C38F9BE30F6329940D61C5F0121002A0C40230909
    7EBA20FB2323160019229540C911FFFF062519D010FE0000
    18F6221640CD1C11D8234E234678B1C9E5ED5B854021C540010100
    FEA6280621CB40012100ED439740010600EDB0E1C9"
4  LET Z$=Z$+"2A0C4011B60219228740114F001922854021BF40CD3641
    382328260BED438F402322894021C140CD364138102813ED439140
    23228B4021C340CD3641DA4B0D20053E0D320040ED439340
    23228D40CD2A0A2A0C40232323220E403A2140FE053804FE13380A
    213C00CDD809222940C947C53E1CD73C10FC327B403E76D7D7
    C1483E26C5F5D7AFD73E1BD70D20FC3E76D7F13CC110ED327C40C9
    CDF1403680010500CD350FC9"
5  LET Z$=Z$+"AF3222402A89407E325B40FEA6CC4441FEA9CC4441545D
    23ED4B8F40EDB0E5ED5B8740213C40012000EDB0E12B113C401A77
    213D40011F00EDB0216400CD2941CDD140DA0D42CD460F
    D0CDF1402A8B40ED4B91403A9740CB6F28072A8D40ED4B9340
    0B78B1CA0D427EFE102320FA56235EE52A9940A7ED52E120E7
    119B403A7B40D61C470E00237EFE112002237EFE10280512130C10F5
    79A7CA0D42C5D52A9540ED4B97407EFE80280BCDD840
    CDCE1430F8127713097EA72808FE762804FE8020E8E1C1119B40
    1ABE200513230D20F721B80BCD294179A7CA0D42
    2A9540ED4B97407EA7CA0D42FE76CA0D42FE80CA0D42361B0918EC"

```

CODE 1006

```

10 LET A$="(A0)The missiles of October char. (A4)The xxx patrol (60's
    series (A8) Actress Smithers (B0) Pub staple (B4) Old Mcdonald
    refrain (B8) Lupino (C0) Diane prince (D2) Fall mo. (D6) Title
    for Hitchcock (E0) Meadows and Mansfield (E7) Lynda's costar
    (F0) Hockey great (F4) Consolation prize (F8) In the xxx (ready
    to air) (G0) Kind of collar (G5) Actor Christopher (H2) xxx Smart
    (H6) Actor Vallone (I0) Hit since 1977 (J0) Dialog-writers asset
    (J4) The elephant xxx (J8) NBC s company (K0) Pluto (K4) Adam xxx
    of rock (K8) Iniquitys home "

```


CODE 169

```

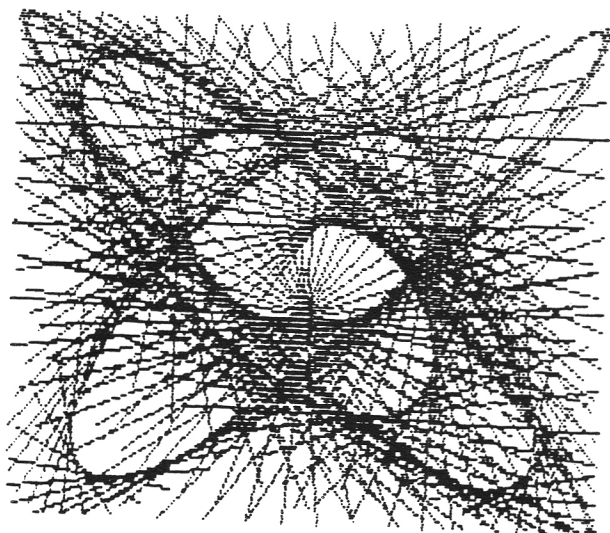
20 LET AS=AS+"(A0) Maxilla (A1) Ziegfeld (A2) Singer-actor
  (A4) Actor Christopher et al. (A5) xxx Supply of pop music
  (A6) Pulls (A8) Garner role (A9) Nabokov book (AA) Actress
  Martin (C3) Actor Murray (C7) Clampetts source of wealth
  (E0) xxx Kidd (1972 film) (E1) Fleming of game-show fame
  (E5) Plant (E9) Glashegian negative (EA) Newhart setting
  (F6) The xxx trap (1961) (G3) xxx Blu Dipinto Blu (G7)
  Frankensteinian milieu (H4) TV series, 1973-74 (I0) WJN
  Anchor (I1) Bali xxx (I5) Actor Johnson (I9) Persona for
  Snoopy (IA) Seaside acquisition "
30 LET BS="(A0)JFK(A4)RAT(A8)JAN(B0)ALE(B4)EIO(B8)IDA(C0)
  WONDERWOMAN(D2)NOV(D6)SIR(E0)JAYNES(E7)LONI(F0)ORR(F4)
  SOP(F8)CAN(G0)ETON(G5)WALKEN(H2)GET(H6)RAF(I0)THELOVEBOAT
  (J0)EAR(J4)MAN(J8)RCA(K0)DIS(K4)ANT(K8)DEN("
40 LET CS="(A0)JAW(A1)FLO(A2)KENNYROGERS(A4)REEVES(A5)AIR(A6)
  TOWS(A8)JIMROCKFORD(A9)ADA(AA)NAN(C3)DON(C7)OIL(E0)JOE
  (E1)ART(E5)SOW(E9)NAE(EA)INN(F6)PARENT(G3)NEL(G7)LAB
  (H4)TOMA(I0)TED(I1)HAI(I5)VAN(I9)ACE(IA)TAN("
50 LET BLOCK=16893
60 PRINT AT 21,0;"ENTER SIZE OF PUZZLE..."
70 INPUT A
80 POKE 16417,A
90 RAND USR 16514
100 PRINT AT 21,0;"ENTER NO. OF BLOCKS RECQ..."
110 INPUT A
120 FOR B=1 TO A
130 RAND USR BLOCK
140 NEXT B
150 RAND USR 16905
160 STOP

```

```

1000 LET A=16514
1010 POKE A,16*CODE ZS+CODE ZS(2)-476
1020 LET A=A+1
1030 LET ZS=ZS(3 TO)
1040 IF ZS<>"" THEN GOTO 1010
1050 STOP

```



```

10 REM For TS-2068 Synapse
20 PRINT "Enter 4 numbers betw
  een 1 and 20"
30 INPUT a,b,c,d
35 CLS
40 LET t=0
50 LET x1=125+125*SIN (a*t)
60 LET y1=87+87*SIN (b*t)
70 LET x2=125+125*SIN (c*t)
80 LET y2=87+87*SIN (d*t)
90 PLOT x1,y1
100 DRAW x2-x1,y2-y1
110 LET t=t+.01
120 GO TO 50

```

JOE E. JENKINS
3100 Mockingbird
AMARILLO, TEXAS 79109

The PC 8300 Computer
Part 1-Hardware
by Ron Hopkins-Lutz L.I.S.W.

INTRODUCTION

One of the most exciting events for me recently was the arrival of a PC 8300 computer from American Design Components. I had seen an ad for this machine claiming it would run T/S 1000 software. It does and it doesn't, but I'll get into that later in Part 2.

This will be a multi-part series. I will cover the hardware in Part 1, software use and compatibility in Part 2, programming in Part 3, and extended memory operations and the mysterious COLOR PACK in part 4. If there is enough interest and Greg permits I will do additional articles on more esoteric subjects.

First the basics. It costs \$29.95 plus shipping and there is a 16k RAM pack available for \$10. The machine is a Z80A based computer with 2k of internal RAM. The company advertises a 32k RAM pack but none were available when I phoned, I did order one of their 16k RAM packs. The manual and box are marked "YOUR COMPUTER". The computer itself is either unmarked or marked "PC 8300" or "IQ 8300".

It comes with an 8.5 VDC power supply, cassette cables, a TV connector cable, and two manuals, one in Chinese, and one in English.

The Chinese manual is more complete technically and much can be figured out from the diagrams since it parallels the ZX-81 and T/S 1000 manuals. The English manual has some typos but will get you going.

HARDWARE

I/O Connectors

There are seven connectors on the back of the unit:

- a 44 position edge connector
- monitor output, RCA type
- NTSC TV output, RCA type
- joystick connector, 9 pin "D"
- power plug
- EAR jack, 3.5 mm
- MIC jack, 3.5 mm

Card Edge Connector

The PC 8300 has the identical card edge connector as the T/S 1000 and from what I could tell from the manual the connector is identical logically and electrically to a T/S 1000. Both a T/S 1016 and ZX81 RAM pack work correctly. Arrays dimensioned large enough to overflow 2k of RAM worked correctly.

The T/S 1040 printer also works correctly. LLIST, LPRINT, and COPY all worked exactly as on a T/S 1000. The printer copied several characters correctly that are on the PC 8300 but are different from the T/S 1000.

A Mindware printer did not work. This printer has been a little touchy and does not always work on my T/S 1000 either, so I cannot be sure that others wouldn't work properly.

Joystick

Two different standard Atari style joysticks both worked properly on the machine. The joysticks are read in as keyboard presses, including the fire button. It should be noted that the examples given in the English manual for the joystick are incorrect as to what keys result when the stick is pushed in a given direction. However since one can push the stick in the direction one wants when typing the program to get the correct letter, this is not a problem.

Monitor Output

The monitor output on the back feed my Zenith and Comrex monitors with a crisp white on black display. My Comrex monitor seems to need a somewhat weaker signal than the computer produces as it is definately

being overdriven.

TV Output

Output to a TV is 75 ohms over channel 2. There is no switch for another channel. Picture quality is about the same as with a T/S 1000 but with less RFI. The screen is somewhat more readable as it is white on black. Fine tuning, vertical hold, brightness, and contrast all needed to be adjusted. The picture was excellent on my RCA and usable if somewhat fuzzy on a Samsung and Daytron.

The TV cable that comes with the unit has a special antenna connector that is used in the UK. You will need to get a switch box and cable. If you have the cable and switch box for the T/S 1000 or T/S 2068 they will work fine.

MIC and EAR Jacks

Cassette loading and saving is through the familiar MIC and EAR jacks on the back of the unit. The unit is somewhat less sensitive than my T/S 1000 to volume differences. It worked best with a GE data recorder and a Radio Shack Minisette 9 recorder. It could not load at all from a REVTRONIC cheapy from REVCO.

Keyboard

The keyboard is a rubber chicklet style full size keyboard. It has an extra SHIFT key and a RESET key! In addition the machine has a keyboard beeper built in. The beeper has a different frequency for each key and can be turned on and off under keyboard control.

The keyboard is arranged differently and is definitely easier to use. One key keywords have been eliminated, but one key functions and graphics are still there. There is an automatic line numbering key, and editing keys are on the bottom row.

Sound

There is a multi-octave sound chip and speaker on board. This is well supported in the software and will be discussed in a future column. But I will note that the machine not only has a beeper, but provisions for sound effects and music.

Power Light and Power On Diagnostics

The unit has a power light on the keyboard and on power up and RESET does a brief diagnostic. It beeps twice and displays a READY message if everything is OK.

Display

The display is white on black and features a large blinking cursor. The format is the same 32 columns as the Sinclair machines.

Miscellaneous

The unit runs at 6 MHz and seems to be quite a bit faster than the T/S 1000 in calculations.

The power supply has the + and - reversed on its coax connector from what is common in the US.

One should be careful if using the T/S 2040 printer as its 24 VAC connector is identical to the connector on the computer and you could fry the computer if it was connected accidentally.

The machine is an attractive cream color with mint green and leaf green accents and keys.

On order at the time of this article but not yet delivered are the 32k RAM pack and the COLOR PACK! I'll tell you about those when I have them.

If you have not purchased one of these machines and are a T/S1000 or ZX81 owner I urge you to do so.

NEXT TIME: SOFTWARE USE AND COMPATABILITY

QoLumn

by Gabe Schaffer

Hello. This month there is a program and a couple of TIPS. I also hear that a few disk drives were purchased for QLS at the COMPUTER FEST, so perhaps someone could offer us some interesting information about that. (My QL was bought at the first FEST in Cincinnati.)

I would appreciate topic ideas and suggestions for short programs for the QoLumn, since longer programs would have to be split up over a period of months. Please see me at one of the meetings, or write to the usual address:

Gabe Schaffer
2599 Saybrook Rd.
Univ. Hts., OH 44118

TIPS

If you turn off or reset your computer while a cartridge is in the drive, the cartridge would not be damaged. If, however, you turn off or reset your computer while the drive is running, the file that is being accessed will be lost.

Q Q Q Q Q

You should not use your computer while it is very humid (I will try to research exact figures.) The humidity would not damage your computer, but the computer might crash unexpectedly, resulting in a loss of data.

PROGRAM

The program presented here, called *Pangolins*, is from the library tape 2.0, but which I've converted to QL Super-BASIC format. Save, load, and print animals functions were also added. Enter YES or NO at each prompt unless noted otherwise.

```
100 REMark QQQ PANGOLINS
110 REMark QQQ A BINARY TREE
120 REMark QQQ FROM LIBRARY TAPE 2.0
130 REMark QQQ CONVERTED TO SuperBASIC
140 REMark QQQ by GABE SCHAFFER
150 MODE 4:nq=100:CLS:CSIZE 1,1
160 DIM q$(nq,52),a(nq,2),r$(1):REMark nq=number of questions q$=questions/answers a=answer data (second argument is t
o direct correct branch of tree - goto a(n,1) for yes, a(n,2) for no r$=one character reply
170 qf=0:RESTORE :POKE_W 163976,256:REMark unchangable CAPS LOCK
180 FOR n=1 TO qf/2-1:READ q$(n),a(n,1),a(n,2):REMark READ questions/answer data
190 FOR o=n+1 TO qf-1:READ q$(o):REMark READ answers
200 pangolins:REMark start main procedure
210 DEFine PROCedure pangolins
220 REPeat Start_playing
230 PRINT 'THINK OF AN ANIMAL':PRINT#0,'Press any key to continue':PAUSE
240 c=1:CLS#0:REMark c=question/answer counter
250 REPeat question_loop
260 IF a(c,1)=0:EXIT question_loop:REMark if answer, exit question loop
270 PRINT q$(c);'?':get_reply:REMark print question and get reply
280 IF r$=='y':in=1:ELSE IF r$=='n':in=2:ELSE END REPeat question_loop
290 c=a(c,in):CLS:END REPeat question_loop:REMark jump to correct question/answer
300 REPeat animal_loop
310 PRINT 'ARE YOU THINKING OF\' ' ;q$(c);'?':get_reply:REMark guess animal and get reply
320 IF r$=='y' OR r$=='n':EXIT animal_loop
330 PRINT'ANSWER ME PROPERLY WHEN I AM TALKING TO YOU.':END REPeat animal_loop
340 IF r$=='y':PRINT'I THOUGHT AS MUCH.':again
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350 IF qf>nq-1:PRINT'I AM SURE YOUR ANIMAL IS VERY INTERESTING, BUT I DO NOT HAVE ROOM FOR IT JUST NOW.':again:REMark no
t enough room
360 q$(qf)=q$(c)
370 PRINT'WHAT IS IT THEN?':INPUT q$(qf+1):REMark get correct animal
380 PRINT'TELL ME A QUESTION THAT DISTINGUISHES BETWEEN':REMark get question to tell the difference between animals
390 PRINT q$(qf)'\AND'
400 PRINT q$(qf+1)
410 INPUT\s$:b=LEN(s$)
420 IF s$(b)='?':b=b-1
430 q$(c)=s$(1 TO b):REMark store animal and question
440 REPEAT answer_loop
450 PRINT 'WHAT IS THE ANSWER FOR':REMark get correct answer to question
460 PRINT q$(qf+1);'?
470 get_reply
480 IF r$='y' OR r$='n':EXIT answer_loop
490 PRINT 'THAT IS NO GOOD.':END REPEAT answer_loop:REMark bad answer
500 in=1:oi=2:IF r$='n':in=2:oi=1
510 a(c,in)=qf+1:a(c,oi)=qf:REMark store answer
520 qf=qf+2:PRINT'THAT FOOLED ME':again
530 DEFine PROCedure again
540 REPEAT again_loop
550 PRINT'ENTER "S" TO SAVE ANIMALS, "L" TO LOAD ANIMALS, "P" TO PRINT ANIMALS, "Y" TO PLAY AGAIN, OR "N" TO STOP.'
560 get_reply
570 IF r$='y':CLS:CLS#0:END REPEAT start_playing
580 IF r$='n':POKE_W 163976,65535:CLS#0:STOP:REMark get back to regular caps mode (to get back to lower, press CAPS LOC
K), clear bottom window, and stop
590 IF r$='s':save_animals
600 IF r$='l':load_animals
610 IF r$='p':print_animals
620 CLS:END REPEAT again_loop
630 DEFine PROCedure get_reply
640 r$=INKEY$(-1)
650 kc=KEYROW(0)+KEYROW(1)+KEYROW(2)+KEYROW(3)+KEYROW(4)+KEYROW(5)+KEYROW(6)+KEYROW(7):IF kc>0:GO TO 650
660 END DEFine
670 DEFine PROCedure save_animals
680 INPUT#0,'WHAT IS THE NAME OF YOUR FILE?'\s$
690 DELETE 'mdvl_'&s$:OPEN_NEW#3,'mdvl_'&s$:without_trailing_spaces:PRINT#3,nqns:FOR f=1 TO nqns:PRINT#3,q$(f)\a(f,1)\a(
f,2)
700 CLOSE#3:END DEFine
710 DEFine PROCedure load_animals
720 INPUT#0,'WHAT IS THE NAME OF YOUR FILE?'\s$
730 OPEN#3,'mdvl_'&s$:INPUT#3,nqns:FOR f=1 TO nqns:INPUT#3,q$(f),a(f,1),a(f,2)
740 CLOSE#3:END DEFine
750 DEFine PROCedure print_animals
760 OPEN#3,ser:without_trailing_spaces:FOR f=1 TO nqns
770 PRINT#3,FILL$('-',60);FILL$('-',3-LEN(f));f;-----'q$(f)\'YES 'a(f,1),'NO 'a(f,2)\:NEXT f
780 CLOSE#3:END DEFine
790 DEFine PROCedure without_trailing_spaces
800 FOR nqns=nq TO 1 STEP -1
810 IF q$(nqns)='':NEXT nqns
820 END DEFine
830 DATA 'DOES IT LIVE IN THE SEA',4,2,'IS IT SCALY',3,5,'DOES IT EAT ANTS',6,7,'A WHALE','A BLANCHMANGE','A PANGOLIN','A
N ANT'
840 REMark XXX If you break program,
850 REMark XXX to stop, type POKE_W 163976,65535
860 REMark XXX to warm start, type PANGOLINS
870 REMark XXX to cold start, type RUN

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July 7, 1987

MEMO from the Club President

Occasionally all all volunteer organizations have their problems. Our User Group is no exception, as indicated by the lateness of this newsletter. A combination of very busy work weeks for our dedicated editor, Greg Dupuy, and arranging for a new printer have resulted in the current delays. The next issue, which will also be a two month double issue, will be out in late August/early September.

sincerely,
Andy Kosiorek
GCSUG pres.

+ + + FOR SALE + + +

QL, including software, RGB cable, serial to parallel interface, Instruction manual and technical manual.
\$ 139.00 for the package.

Contact: Clarence Lucht at 216-871-4653

```
1 REM ZTERM-64 XMODEM FIX by Edwin L. Schoen 4/2/87
3 REM from T/S Guide to Communications by Fisher & Ishii
10 REM This BASIC program contains fixes for the Ztrem-64
    Xmodem bugs. They take care of the problems with
    the last block sent or received.
12 REM To insert fix, CLEAR 47000, LOAD "zterm" CODE and
    then run this program, thats it.
14 REM The first fix pads an incomplete final block with
    CTRL-Z's when sending. The second fix removes the
    CTRL-Z's from the last block received.
20 DATA 57874,4,62,26,24,242
22 DATA 58298,2,234,228
24 DATA 58602,40,229,42,75,92,197,6,128,43,126,254
25 DATA 13,40,15,254,10,40,11,254,26,32
26 DATA 4,16,240,24,9,35,54,13,35,54,128
27 DATA 34,75,92,193,225,205,127,194,201
30 REM Patch SEND buffer: GO SUB 60: REM Call FIX routine:
    GO SUB 60: REM Fix RECEIVE buffer end-pointer: GO SUB 60
40 SAVE "ZTERMCOD.V2"CODE 47000,16384
50 BEEP .25,10: BEEP .25,10: BEEP .25,10: BEEP 1,6
51 BEEP .12,8: BEEP .12,8: BEEP .12,8: BEEP 1,5
52 STOP
60 READ Adrs: READ Size: FOR i=Adrs TO Adrs+Size-1: READ v:
    POKE i,v: NEXT i: RETURN
```

THE FOLLOWING FORM IS FOR THOSE WHO ARE INTERESTED IN RECEIVING A LIBRARY TAPE. YOU MUST FILL THIS OUT AND RETURN IT IF YOU WANT A TAPE MAILED TO YOU! This form is for those of you that DON'T attend the meetings. There are 2 ways to get a copy of the programs in our library: 1- Send a C-90 with your return address and \$1.00 (P&H) or 2- We will send you a tape that you can keep for \$3.00. (Make checks payable to The RAMTOP)
Thank You for your support of our group!

* LIBRARY TAPE FORM *

* NAME _____ PHONE _____ - _____ - _____

* ADDRESS _____ phone # is REQUIRED!

* CITY _____ STATE _____ ZIP _____

* TYPE OF COMPUTER YOU OWN: 1000/ZX-81 _____ /1500 _____ /2068 _____

* check all that you have : QL _____ OTHER _____

* Do you have a DISK system: (type) _____

* Please note that we request that the form be filled out as

* completely as possible.

Mail the form along with your check (\$1.00 or \$3.00) to:
Dean Miller (Librarian) + It would be appreciated if you
29324 Park St. + send us any noncopyrighted soft-
Wickliffe, OH, 44092 + ware!!! (Phone- 216-944-8630)

If you would like to subscribe to the RAMTOP please fill out this form and send it to the listed address along with a check for: \$15/Year or \$7.50/ 6 mo. to become a member of our Group (Attend meetings, use library tapes Ect.) or: \$12/Year or \$6/ 6 months to receive the RAMTOP only. Please make checks payable to the RAMTOP! (The phone # is only for our records!)

*Please print! Enclosed: \$ _____ for 1 year__ / 6 months__

*NAME: _____ PHONE: _____ - _____ - _____

*STREET: _____ We need your phone #

*CITY: _____ STATE: _____ ZIP: _____

*Type of computer(s) and peripheral(s) you own: _____

* _____

* _____

* _____

* THANK YOU for your interest! Please send to:

*Robert Parish, 12706 Leeila Ave., Cleveland, OH 44135

QL's FOR SALE:

These QL's are brand new and tested. Included with the computer is the bundled software package from Psion, 4 blank cartridges, owners manual, power supply, and cables. CALL DOUG GILLESPIE : 884-8835

If you are interested in buying C-10s or C-20s at the meetings, Please give me a call at home so that I may bring the proper amount of tapes. TOM JENNINS: 942-4209 (6-11 Evenings)



MEL BROOKS



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FROM THE TV SHOW "HUNTER"

From:
THE GREATER CLEVELAND SINCLAIR USERS GROUP
James G. DuPuy (Editor) 661-4105
6514 Bradley Ave. (Down)
Parma, Ohio 44129

TO:

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